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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/555,701	08/10/2000	OLAF JOERESSEN	367.38587X00	9004
20457	7590	05/20/2004	EXAMINER	
ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-9889			VOLPER, THOMAS E	
			ART UNIT	PAPER NUMBER
			2665	8

DATE MAILED: 05/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/555,701

Applicant(s)

JOERESSEN, OLAF

Examiner

Thomas Volper

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Specification

1. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) BRIEF SUMMARY OF THE INVENTION.
- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 17-20, 27 and 28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not provide any description of transmissions in a third mobile radio communications network, or a third transceiver means in the terminal of the present invention.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 27 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claim 27 recites the limitation "the third transceiver means" in line 1. There is insufficient antecedent basis for this limitation in the claim.

7. Claim 28 recites the limitation "said third transceiver means" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-16, 21-26 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haartsen (US 5,870,673) in view of Haartsen (US 6,590,928).

Regarding claim 1, Haartsen '673 discloses a terminal for simultaneously operating in a wide area cellular network, meeting the limitation of a first mobile radio communications network, and a private radio communications network, meeting the limitation of a second different radio communication network (col. 5, lines 9-19). Haartsen '673 also discloses transceiver means for transmitting and receiving in said mobile communications network and transceiver means for transmitting and receiving in the second radio communications network (col. 11, lines 16-21). Haartsen '673 also discloses that transmissions in the wide area cellular network occur in a first predetermined period of time, and transmissions in the private radio communications network occur in a second predetermined period of time (col. 11, lines 22-36). This meets the limitation of a period of time between transmissions on the first mobile communications network. Haartsen '673 discloses that the private radio network may be a TDMA network that uses designated time slots at a designated frequency. Haartsen '673 fails to expressly disclose transmitting and/or receiving an integer number of packets sequentially in the period of time. Haartsen '928 discloses an ad hoc piconet wireless LAN wherein a temporary master unit is identified (col. 11, lines 24-36). The master unit controls the connection between

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two slave units, which must listen to the master during a slave receive (RX) slot and respond in a slave transmit (TX) slot (col. 12, lines 32-39). The WLAN uses TDD frames that consist of a transmit slot and a receive slot, and each slot can contain only one packet (col. 12, lines 50-55). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to implement the WLAN of Haartsen '928 as the private radio network of Haartsen '673 wherein the mobile terminal may be temporarily acting as the master unit. At the time the invention was made, it also would have been obvious to a person of ordinary skill in the art to transmit only whole TDD frames, thus an integer number of packets, of Haartsen '928 during the period of time of Haartsen '673. One of ordinary skill in the art would have been motivated to use the Haartsen '928 network to provide an efficient way of time slot allocation in the invention of Haartsen '673. One of ordinary skill in the art would have been motivated to only transmit whole TDD frames during the period of time so that no data would be lost or corrupted.

Regarding claims 2 and 3, the '928 reference discloses that the master controls the connections in the piconet, and that a polling pattern is used to schedule the transmissions of the slave units (col. 12, lines 32-35). This meets the limitations of defining allocation patterns for transmission of packets in the second radio communications network.

Regarding claim 4, the '928 reference discloses that the TDD frames consist of a TX and a RX slot. All slaves listen during the RX slot, but only the slave that is addressed in the RX slot may transmit in the succeeding TX slot (col. 12, lines 35-39). This meets the limitation of an allocation pattern that controls at what time transceiver units have access to the network, whether transmission or reception access, and the duration of access.

Regarding claims 5 and 6, the '673 reference discloses that the structure of the multiframe of the wide area cellular network and private network are such to reduce or eliminate the potential for consecutive conflicting transmissions (col. 10, lines 18-26).

Regarding claim 7, the '673 reference discloses a selector circuit (60) for selecting either the cellular circuit, or private network circuit when the first predetermined time interval and the second predetermined time interval conflict (col. 12, lines 22-27). Thus, the terminal may only communicate over one network at a time.

Regarding claim 8, as described above, the '673 reference discloses that the mobile terminal communicates over the private radio network during the second predetermined period of time, which is in between successive first predetermined periods of time for communicating over the wide area cellular network. These periods of time repeat cyclically. Also, as described above, the '928 reference discloses the scheduling of transmission slots in the WLAN, which meet the limitation of allocation patterns. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to define a particular allocation pattern equal to the length of the second predetermined time period of the '673 reference. One of ordinary skill in the art would have been motivated to do this in order to prevent any overlap between communications on the WLAN of the '928 reference and the wide area cellular network of the '673 reference.

Regarding claims 9 and 10, the '673 reference discloses that while a call on the wide area cellular network is ongoing, the terminal may continue to monitor the private radio network during idle frames of the wide area cellular network (col. 14, lines 51-59). It is obvious that the amount of idle frames in a call over the cellular network is a variable parameter. The '673

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reference does not expressly disclose allocation patterns with variable lengths. As described above, the '928 reference discloses allocation patterns comprised of TDD frames with two time slots each. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to vary the amount of TDD frames in an allocation pattern. One of ordinary skill in the art would have been motivated to do this in order to make use of all of the idle frames in the cellular communication for transmission or monitoring on the private radio network.

Regarding claim 11, the '673 reference discloses that the mobile terminal uses TDMA framing structures in the private radio network (col. 7, lines 65-67).

Regarding claim 12, the '928 reference discloses that all slave units are synchronized and listen on the same time slot (col. 12, lines 35-37).

Regarding claim 13, the '928 reference discloses a time frame that has two time slots and wherein at most one packet is transmitted during each slot (col. 12, lines 50-55).

Regarding claims 14-16, the '928 reference discloses two time slots per frame, an even number. As described with respect to claim 1, it is obvious to transmit an integer number of packets during the time period between successive transmissions on the first network. Since the '928 reference discloses transmitting at most one packet per time slot, this corresponds to an integer number of time slots being transmitted during that period of time.

Regarding claim 21, the '928 reference does not expressly disclose a fixed length slot, but does disclose that the units must adhere to strict TDD timing in order to be synchronized (col. 12, lines 57-59). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use fixed length slots in the combination provide by Haartsen '673 in

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view of Haartsen '928. One of ordinary skill in the art would have been motivated to do this to make it easy to synchronize all of the slave units in a piconet.

Regarding claim 22, the '673 reference discloses using a frequency hopping scheme (col. 9, lines 63-64) and the transmit frequency hops with each successive time slot (col. 12, lines 56-57).

Regarding claim 23, the '673 reference discloses a synchronization circuit (67) for maintaining synchronization with both the wide area cellular network and private radio network (col. 11, lines 44-48).

Regarding claims 24 and 25, the '673 reference discloses that the wide area cellular network uses GSM, which is a TDMA technology (col. 8, lines 16-18). The '673 reference also discloses that the paging channel may be used for transmission once every two multiframes (col. 8, lines 30-38), thus meeting the limitation of a period of time between transmissions equal to a TDMA frame.

Regarding claim 26, the '673 reference discloses a predetermined time duration during which the mobile terminal conducts activity over the wide area cellular network (col. 11, lines 26-30).

Regarding claim 29, the '673 reference discloses that the mobile terminal is part of a wide area cellular network, as describe in the preceding paragraphs.

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Conclusion

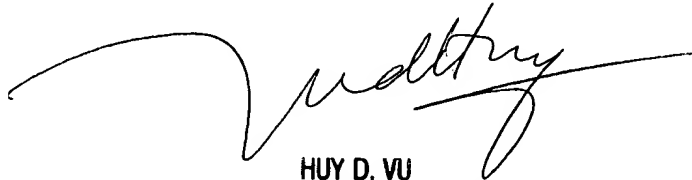
10. Any inquiry concerning this communication, or earlier communications from the examiner should be directed to Thomas Volper whose telephone number is 703-305-8405 and fax number is 703-746-9467. The examiner can normally be reached between 8:30am and 6:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached at 703-308-6602. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

Thomas E. Volper

TEV

May 5, 2004

A handwritten signature in black ink, appearing to read 'Huy D. Vu', with a long horizontal stroke extending to the right.

HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600